



**COURSE OVERVIEW DE1048-4D**

**E&P Risk Analysis, Prospect Evaluation & Exploration Economics**

**Course Title**

E&P Risk Analysis, Prospect Evaluation & Exploration Economics

**Course Date/Venue**

December 23-26, 2024/Fujairah Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE

**Course Reference**

DE1048-4D

**Course Duration/Credits**

Four days/2.4 CEUs/24 PDHs



**Course Description**



***This practical and highly-interactive course includes various practical sessions and exercises. Theory learnt will be applied using our state-of-the-art simulators.***



This course is designed to provide participants with a detailed and up-to-date overview of E&P risk analysis, prospect evaluation and exploration economics. It covers the importance of economic and risk analysis including demand, supply and the market; the oil price in short term and long term; the fundamentals of oil and gas hedging; the sequence of events of a new discovery; the exploration economics and reservoir drive mechanisms; the reserve estimation and decline curve analysis; and the production profile, revenue, costs and profit and time value of money.



During this interactive course, participants will learn the net present value, internal rate of return and pay out time; the profit/investment ratio, oil agreements and economic models and spreadsheet design; the risk and uncertainty, expected value concept and decision tree analysis; the monte carlo simulation, probability analysis, sensitivity analysis and decision analysis; and the integrated economic model of a typical oil field development.



## Course Objectives

Upon the successful completion of this course, each participant will be able to:-

- Apply and gain an in-depth knowledge on E&P risk analysis, prospect evaluation and exploration economics
- Discuss the importance of economic and risk analysis including demand, supply and the market
- Identify oil price in short term and long term as well as the fundamentals of oil and gas hedging and the sequence of events of a new discovery
- Discuss exploration economics and reservoir drive mechanisms
- Carryout reserve estimation and decline curve analysis
- Review production profile, revenue, costs and profit
- Recognize the time value of money, net present value, internal rate of return and pay out time
- Illustrate profit/investment ratio, oil agreements and economic models and spreadsheet design
- Discuss risk and uncertainty and expected value concept
- Apply decision tree analysis, monte carlo simulation, probability analysis, sensitivity analysis and decision analysis
- Set up an integrated economic model of a typical oil field development

## Exclusive Smart Training Kit - H-STK®



Participants of this course will receive the exclusive “Howard Smart Training Kit” (H-STK®). The H-STK® consists of a comprehensive set of technical content which includes **electronic version** of the course materials, sample video clips of the instructor’s actual lectures & practical sessions during the course conveniently saved in a **Tablet PC**.

## Who Should Attend

This course provides an overview of all significant aspects and considerations of E&P risk analysis, prospect evaluation and exploration economics for geoscientists, negotiators, engineers, economists and managers.

## Training Methodology

All our Courses are including **Hands-on Practical Sessions** using equipment, State-of-the-Art Simulators, Drawings, Case Studies, Videos and Exercises. The courses include the following training methodologies as a percentage of the total tuition hours:-

- 30% Lectures
- 20% Practical Workshops & Work Presentations
- 30% Hands-on Practical Exercises & Case Studies
- 20% Simulators (Hardware & Software) & Videos


In an unlikely event, the course instructor may modify the above training methodology before or during the course for technical reasons.

### Course Certificate(s)

Internationally recognized certificates will be issued to all participants of the course who completed a minimum of 80% of the total tuition hours.

### Certificate Accreditations


Certificates are accredited by the following international accreditation organizations: -

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 The International Accreditors for Continuing Education and Training (IACET USA)

Haward Technology is an Authorized Training Provider by the International Accreditors for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this authority, Haward Technology has demonstrated that it complies with the **ANSI/IACET 2018-1 Standard** which is widely recognized as the standard of good practice internationally. As a result of our Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for its programs that qualify under the **ANSI/IACET 2018-1 Standard**.

Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking **Continuing Education Units (CEUs)** in accordance with the rules & regulations of the International Accreditors for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

Haward Technology Middle East will award **2.4 CEUs** (Continuing Education Units) or **24 PDHs** (Professional Development Hours) for participants who completed the total tuition hours of this program. One CEU is equivalent to ten Professional Development Hours (PDHs) or ten contact hours of the participation in and completion of Haward Technology programs. A permanent record of a participant's involvement and awarding of CEU will be maintained by Haward Technology. Haward Technology will provide a copy of the participant's CEU and PDH Transcript of Records upon request.

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 British Accreditation Council (BAC)

Haward Technology is accredited by the **British Accreditation Council** for **Independent Further and Higher Education** as an **International Centre**. BAC is the British accrediting body responsible for setting standards within independent further and higher education sector in the UK and overseas. As a BAC-accredited international centre, Haward Technology meets all of the international higher education criteria and standards set by BAC.

### Course Fee

**US\$ 6,750** per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

### Accommodation

Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.

### Course Instructor

This course will be conducted by the following instructor(s). However, we have the right to change the course instructor(s) prior to the course date and inform participants accordingly:



**Dr. Saad Aljzwe**, PhD, MEng, MSc, BSc, is a **Senior Petroleum & Reservoir Engineer** with over **25 years** of practical and academic experience in the areas of **Petroleum Economic Analysis, Economic Evaluation, Petroleum Risk Analysis & Decision Making, Oil Agreement, Exploration & Production Sharing Agreements, Multidisciplinary Research, Economics & Property Evaluation, Conventional & Unconventional Oil & Gas Reserves Estimation, Reservoir Management, Reservoir Engineering, Reservoir Performance Analysis, Oil Fields Subsurface Assessment & Forecasting, Casing Design, Drilling & Workover, PVT & Core Analysis, Production Operations, EOR/IOR, Field Development Design & Evaluation, Miscible Gas Injection (CO<sub>2</sub> Injection) Design & Evaluation, Special Core Analysis & Formation Evaluation, EOR-CO<sub>2</sub> Injection, Remaining Gas in Place Estimation, Material Balance Method, Computerized Monitoring & Processing System Design, Magnetic Field Controlling, Comparative Risk Evaluation & Sensitivity Analysis, Critical Production Rate for Bottom Water Coning in the Majed (EE-Pool) Reservoir, Oil Pipeline Black Powder Removal, Oil Field Water Shutoff Treatment Methods, Water-Based Mud Rheological & Fluid Loss Control, Empirical Equation, Water-Flooding Performance, Sandstone Reservoirs, Reservoir Fluid Properties, Mathematical Modelling, Directional Permeability Anisotropy, Drilling Operational Efficiency & Well Cost Reduction, Infill Drilling Program, Drilling Efficiency and Ultra-mud System Optimization. Further, he is also well-versed in various petroleum software such as the **MBAL** (Reservoir Engineering Toolkit), **KAPPA-Saphir** (Well Testing), **KAPPA-Rubis** (Reservoir Simulation), **CMG** (Reservoir Simulation), **Merak Peep** (Economic Evaluation and Production Decline Analysis) and **Monte Carlo** Simulation.**

During Dr. Saad's career, he gained his thorough practical experience through several challenging positions such as the **Senior Lecturer, Head** of Petroleum Engineering Department, **Head** of Chemical Engineering Department, **Head** of the Union of Faculty Members, **Assistant Professor, Teaching Assistant, Researcher** and **Academic Coordinator** from various international well-renowned companies such as the **University of Wyoming, Colorado School of Mines, American University of Ras Al Khaimah, Australian College of Kuwait, Sirt University** and **Bright Star University of Technology**.

Dr. Saad has a **PhD** and **Master** degreeS in **Petroleum Engineering** from the **University of Wyoming** and **Colorado School of Mines, USA**, respectively as well as **Master** degrees in **Petroleum Economics & Management** and **Reservoir Geosciences & Engineering** from the **Institut Francias du Petrole**, France and a **Bachelor's** degree in **Petroleum Engineering**. Further, he is a **Certified Instructor/Trainer**, a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management (ILM)** and a member of the **American Society of Petroleum Engineering (SPE)**, **Society of Petroleum Resources Economists (SPRE)**, **Association of Professional Engineering of Libya**, **Libyan Society of Earth Science** and the **Environment Friends Association of Libya**. Moreover, he is an **author/co-author** and published **various research papers** in local and international scientific journals and conferences. He has further delivered numerous trainings, courses, workshops, seminars and conferences globally.



**Course Program**

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the course for technical reasons with no prior notice to participants. Nevertheless, the course objectives will always be met:

**Day 1: Monday, 23<sup>rd</sup> of December 2024**

0730 - 0800	Registration & Coffee
0800 - 0815	Welcome & Introduction
0815 - 0830	<b>PRE-TEST</b>
0830 - 0900	<b>Importance of Economic &amp; Risk Analysis</b>
0900 - 0930	<b>Demand, Supply &amp; the Market</b>
0930 - 0945	Break
0945 - 1030	<b>Demand &amp; Supply: Elasticity</b>
1030 - 1130	<b>Oil Price in Short Term &amp; Long Term</b>
1130 - 1230	<b>The Fundamentals of Oil &amp; Gas Hedging - Swaps</b>
1230 - 1245	Break
1245 - 1345	<b>Sequence of Events of a New Discovery</b>
1345 - 1420	<b>Exploration Economics</b>
1420 - 1430	<b>Recap</b>
1430	Lunch & End of Day One

**Day 2: Tuesday, 24<sup>th</sup> of December 2024**

0730 - 0830	<b>Reservoir Drive Mechanisms</b>
0830 - 0930	<b>Reserve Estimation</b>
0930 - 0945	Break
0945 - 1030	<b>Decline Curve Analysis</b>
1030 - 1130	<b>Production Profile</b>
1130 - 1230	<b>Revenue, Costs &amp; Profit</b>
1230 - 1245	Break
1245 - 1345	<b>Time Value of Money</b>
1345 - 1420	<b>Net Present Value</b>
1420 - 1430	<b>Recap</b>
1430	Lunch & End of Day Two

**Day 3: Wednesday, 25<sup>th</sup> of December 2024**

0730 - 0830	<b>Internal Rate of Return</b>
0830 - 0930	<b>Pay Out Time</b>
0930 - 0945	Break
0945 - 1030	<b>Profit/Investment Ratio</b>
1030 - 1130	<b>Oil Agreements</b>
1130 - 1230	<b>Economic Models &amp; Spreadsheet Design</b>
1230 - 1245	Break
1245 - 1345	<b>Risk &amp; Uncertainty</b>
1345 - 1420	<b>Expected Value Concept</b>
1420 - 1430	<b>Recap</b>
1430	Lunch & End of Day Three

**Day 4: Thursday, 26<sup>th</sup> of December 2024**

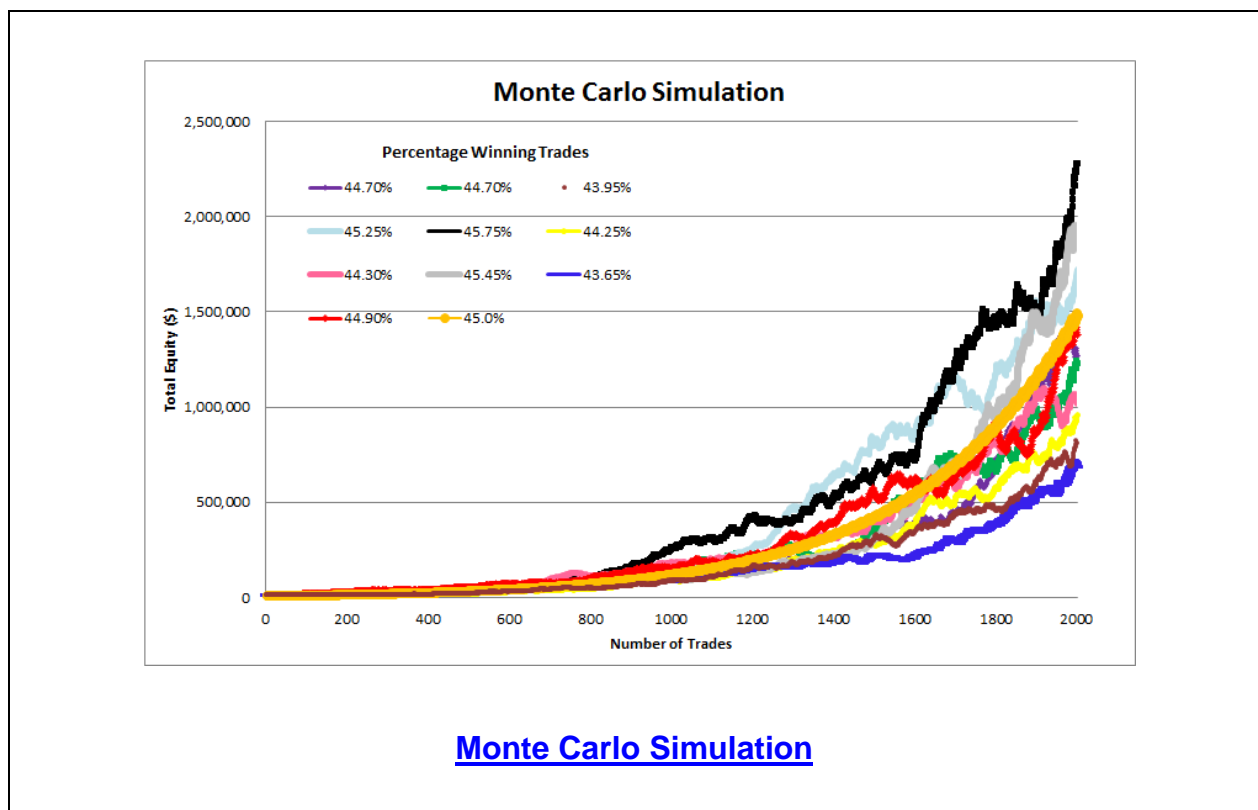
0730 - 0830	<b>Decision Tree Analysis</b>
0830 - 0930	<b>Monte Carlo Simulation</b>
0930 - 0945	Break



0945 – 1030	<i>Probability Analysis</i>
1030 – 1130	<i>Sensitivity Analysis</i>
1130 – 1230	<i>Decision Analysis</i>
1230 – 1245	<i>Break</i>
1245 – 1345	<i>Setting Up an Integrated Economic Model of a Typical Oil Field Development</i>
1345 – 1400	<i>Course Conclusion</i>
1400 – 1415	<i>POST-TEST</i>
1415 – 1430	<i>Presentation of Course Certificates</i>
1430	<i>Lunch &amp; End of Course</i>

### Practical Sessions

Practical sessions will be organized during the course for delegates to practice the theory learnt. Delegates will be provided with an opportunity to carryout various exercises using the simulator “Monte Carlo”.



### Course Coordinator

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